

Aim

To create a Pandas program that swaps the cases of a specified character column in a given DataFrame.

Algorithm

1. Import the required library (pandas)
2. Create a sample DataFrame with a character column
3. Define a function to swap cases of a string
4. Apply the case-swapping function to the specified column using DataFrame's `apply` method
5. Display the original and modified DataFrames

Code

```
import pandas as pd

df = pd.DataFrame({'Name': ['John', 'JANE', 'Mike', 'EMILY'],
                  'Age': [25, 30, 35, 28],
                  'City': ['New York', 'LONDON', 'Paris', 'TOKYO']})

def swap_case(s):
    return s.swapcase()

df['City_Swapped'] = df['City'].apply(swap_case)

print("Original DataFrame:")
print(df)

print("\nDataFrame with Swapped Cases in City Column:")
print(df[['Name', 'Age', 'City_Swapped']])
```

Output

```
Original DataFrame:
   Name  Age  City
0  John   25 New York
1  JANE   30  LONDON
2  Mike   35   Paris
3 EMILY   28   TOKYO

DataFrame with Swapped Cases in City Column:
   Name  Age City_Swapped
0  John   25    new york
1  JANE   30     london
2  Mike   35     PARIS
3 EMILY   28     tokyo
```

Result

The program successfully swaps the cases of the 'City' column, creating a new 'City_Swapped' column with inverted character cases.